## REMARKS

In the Office Action, the Examiner rejected claims 1-23. By the present response, Applicant have amended claims 1, 8, 9, 15, 16, 22 and 23. These amendments do not add any new matter. Applicant respectfully reserves the right to pursue the claims as originally presented in an appropriate continuing application. Upon entry of these amendments, claims 1-23 remain pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, Applicant respectfully requests reconsideration and allowance of all pending claims.

### Claim Rejection under 35 U.S.C. § 101

The Examiner rejected claims 1-7 and 23 under 35 U.S.C. § 101, claiming that the Applicant's invention is directed to non-statutory subject matter. In particular, the Examiner stated that:

> Claims 1-7 are directed to "An apparatus for acknowledging a data transfer, comprising: a first protocol... and a second protocol..." An apparatus comprising only protocols, protocols, defined in the art as a set of rules governing the formal of messages that are exchanged between computers, amounts of nonfunctional descriptive material. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory.
>
> Claim 23 is directed to a program comprising a machine-readable medium that stores two protocols. A machine readable medium can be reasonable be interpreted as transmission media. Claims drawn to components involving signals encoded with functional descriptive material do not fall within any of the categories of statutory subject matter as set forth in 35 U.S.C. 101, and are therefore, ineligible for protection.
>
> Claim 23 is further rejected as it is directed to a program comprising a machine-readable medium that stores two protocols. A protocol is defined in the art as a set of rules governing the formal of messages that are exchanged between computers and amounts to nonfunctional descriptive material. When nonfunctional descriptive material is recorded on some

> computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory.

Office Action, pages 2-3.

The Applicant respectfully traverses this rejection. Although Applicant does not concede the correctness of the Examiner's reasoning, the Applicant has amended independent claims 1 and 23 to overcome the rejection. Specifically, Applicant have amended claim 1 to recite, *inter alia*, "a processor configured to transfer data according to a plurality of protocols of a protocol stack comprising." Additionally, claims 1 and 23 have been amended so that the protocols are "for" performing the recited functions, *i.e.*, the protocols provide the rules "for" the data transfer. Accordingly, Applicant respectfully asserts that independent claims 1 and 23 are directed to statutory subject matter and respectfully requests withdrawal of the Section 101 rejection of claims 1 and 23, as well as dependent claims 2-7.

Furthermore, with respect to claim 23, Applicant respectfully reminds the Examiner that "computer programs embodied in a tangible medium...are patentable subject matter under 35 U.S.C. § 101." *In re Beuregard*, 53 F.3d 1583 (Fed. Cir. 1995). As such, Applicant respectfully asserts that claim 23, which is directed to a tangible medium having a program, is patentable subject matter under 35 U.S.C. § 101. For at least this additional reason, Applicant respectfully requests withdrawal of the rejection under Section 101 of claim 23.

**Claim Rejection Under 35 U.S.C. § 112**

In the Office Action, the Examiner rejected claims 1-23 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. More specifically, the Examiner stated:

> Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

> which it pertains, or with which it is most nearly connected, to make and/or use the invention.
> [...]
> Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
> [...]
> Claims 1, 8, 9, and 23 use the term "adapted to" (claim 1:lines 2 and 3; claim 8:line 9; claim 9:line 2; claim 23: line 6). The recitation of "adapted to" only suggests, but does not require, what is recited after "adapted to" to be performed.
>
> Claim 8 recites, "the consumer" (line 8). There is insufficient antecedent basis for this limitation in the claim.

Office Action, page 4, 7 and 8. Although the Applicant does not concede the correctness of the Examiner's reasoning, as set forth above, claims 1, 8, 9, 15, 16, 22 and 23 have been amended. Applicant respectfully asserts that, as amended, the claims overcome each of the Section 112 rejections set forth above. As such, the Applicant respectfully traverses these rejections.

With respect to the rejections under the first and second paragraphs of Section 112, Applicant have amended the claims so that the protocols are "for" performing functions. As the Examiner points out, a protocol may be a set of rules governing the format of messages that are exchanged between computers. *See* Office Action, pg. 4. As such, because the claims recite protocols for performing functions, Applicant respectfully asserts that one of ordinary skill in the art would be enabled, in view of the specification, to make and/or use the subject matter recited in the claims. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1-23 under the first paragraph of Section 112.

Additionally, with respect to the rejection of claims 1, 8, 9 and 23 for using the term "adapted to," Applicant has amended the claims so that they no longer recite "adapted to." Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1, 8, 9 and 23 for the use of the term "adapted to." Furthermore, claim 8 has been amended to recite "a consumer" and correct any antecedent basis problem in the claim as originally presented.

Accordingly, for at least the reasons set forth above, Applicant respectfully requests withdrawal of all the rejections of claims 1-23 under Section 112.

Additionally, in the Office Action, the Examiner rejected claims 1-6, 8-18, and 20-23 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al., U.S. Publication No. 2004/0156393 (hereafter referred to as "the Gupta reference") in view of Fukae et al., U.S. Publication No. 2002/0199051 (hereafter referred to as "the Fukae reference"). The Examiner also rejected claims 7 and 19 under 35 U.S.C. § 103(a) as being unpatentable over the Gupta reference in view of the Fukae reference, as applied to claims 8 and 16, and further in view of Cheriton et al., U.S. Patent No. 6,675,200 (hereafter referred to as "the Cheriton reference"). The Applicant respectfully traverses these rejections.

**Rejection of Claims 1, 8, 16, 22 and 23 Under 35 U.S.C. § 103(a)**

With respect to claim 1, the Examiner stated:

> As to claim 1, Gupta discloses an apparatus for acknowledging a data transfer (Abstract), comprising:
> a first protocol that is adapted to generate a request for a data transfer ([0063], lines 9-11);
> and a second protocol that is adapted to:
> receive the request for the data transfer from the first protocol ([0063], lines 9-11);
> determine whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer ([0063], lines 18-20);
> if the request for data transfer does contains a request for acknowledgement of the completion of the data transfer, set a variable in memory to wait for an event to correspond to the completion the request for data transfer and send an acknowledgement to the first protocol upon the occurrence of the event ([0063], lines 18-22, a variable is inherently set in memory that corresponds to the completion of the request otherwise it would not be aware when the last acknowledgment is received.)
> But, Gupta does not disclose sending a performance request corresponding to the request for data transfer.
> However, Fukae discloses sending a performance request corresponding to the request for data transfer ([0108]-[0109], a transfer speed (a factor of performance) is negotiated and then a request to maintain that speed is made).

> Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Gupta and Fukae in order to have control over how fast the data transfer is and thereby overall giving greater control over the system to the user or programmer.

Office Action, pp. 9-10. The Examiner rejected claims 8, 16, 22 and 23 under a similar rationale. Applicant respectfully traverses the rejection.

***Legal Precedent***

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). In addressing obviousness determinations under 35 U.S.C. § 103, the Supreme Court in *KSR International Co. v. Teleflex Inc.*, No. 04-1350 (April 30, 2007), reaffirmed many of its precedents relating to obviousness including its holding in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). In *KSR*, the Court also reaffirmed that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 14. In this regard, the *KSR* court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does ... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 14-15. In *KSR*, the court noted that the demonstration of a teaching, suggestion, or motivation to combine provides a "helpful insight" in determining whether claimed subject matter is obvious. *KSR, slip op.* at 14.

Furthermore, the *KSR* court did not diminish the requirement for objective evidence of obviousness. *Id.* at 14 ("To facilitate review, this analysis should be made explict. See *In re Kahn,* 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to

the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."); *see also, In re Lee,* 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002) (holding that the factual inquiry whether to combine references must be thorough and searching, and that it must be based on *objective evidence of record*).

The instant application is directed to efficiently managing memory buffers in an RDMA environment. In a conventional approach, an application protocol is unable to determine when data has been exchanged between nodes because it is not involved in the actual data movement. *See* specification, paragraph 28. Because of this, no acknowledgment is ever sent or received by the application protocol and data may remain in memory buffers indefinitely. *Id.* at paragraph 29. In accordance with the present techniques, the memory buffers are efficiently managed by the requests for acknowledgement. *Id.* at paragraph 31.

As such, claim 1 recites, "a first protocol for initiating a request for a data transfer; and a second protocol for: receiving the request for the data transfer from the first protocol; *determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer*; sending a performance request corresponding to the request for data transfer to a third protocol; and if the request for data transfer does contain a request for acknowledgement of the completion of the data transfer, setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event." (Emphasis added). Claim 8 recites, "a first protocol layer for interacting with a consumer; a second protocol layer for: receiving a data exchange request from the first protocol layer; *examining the data exchange request to determine if an acknowledgement request is indicated*; sending a performance request corresponding to the data exchange request to a third protocol layer; and if the data exchange request contains the acknowledgement request, setting a variable in memory to wait for an event that corresponds to the completion of the performance request and sending an acknowledgement to the first protocol layer upon the occurrence of the event. (Emphasis added). Claim 16 recites, transferring data according to a plurality of protocols; receiving a request for a data transfer

according to a first protocol; *determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer*; sending a performance request corresponding to the request for data transfer according to a second protocol; and if the request for data transfer does contain a request for acknowledgement of completion of the data transfer, setting a variable in memory to wait for an event corresponding to completion of the data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event. (Emphasis added).

Claim 22 recites, means for receiving a request for a data transfer according to first protocol; *means for determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer according to a second protocol*; means for sending a performance request corresponding to the request for data transfer according to a third protocol; and means for setting a variable in memory to wait for an event to correspond to the completion of the performance request and sending an acknowledgement according to the first protocol upon the occurrence of the event if the request for the data transfer does contain the request for acknowledgement of completion of the data transfer. (Emphasis added). Claim 23 recites a first protocol stored on the tangible medium for generating a request for a data transfer; and a second protocol stored on the machine readable medium for: receiving the request for the data transfer from the first protocol; *determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer*; sending a performance request corresponding to the request for data transfer to a third protocol; and setting a variable in memory to wait for an event to correspond to the completion of the performance request and sending an acknowledgement to the first protocol upon the occurrence of the event if the request for data transfer does contain a request for acknowledgement of completion of the data transfer. (Emphasis added).

In sharp contrast, the Gupta and Fukae references do not disclose the above recited features. The Gupta reference is directed to a network interface card that is adapted to perform at least one session layer function of a host computer connected to a network. *See* Gupta, abstract. In this regard, the Gupta reference discloses a host generating a "connection_send request" for sending data to a server via a network. *Id.* at paragraph 63, lines 9-11. Data is then packetized and sent out and, upon arrival at a remote location,

acknowledgements are sent out. *Id.* at paragraph 63, lines 11-18. Notification is then sent to an upper layer protocol handler after the acknowledgments are received. *Id.* at paragraph 63, lines 18-21. However, the Applicant is unaware of anywhere in the Gupta reference that discloses *determining whether the request for the data transfer contains a request for acknowledgement of the completion of the data transfer*, as set forth in claims 1, 8, 16, 22 and 23. In fact, it appears as though an acknowledgement is sent out without any regard as to whether there is a request for acknowledgement. The portion of the Gupta reference cited by the Examiner on this point simply states:

> Upon receiving acknowledgement of the last packet being received by the remote location, a notification is sent to the ULP FW of the L5NIC, which in return sends a connection_send_notifiy message to the host ULP, to confirm that the data was received by the remote location.

*Id.* at paragraph 63, lines 18-22. As can be seen, there is no determination as to whether an acknowledgement of the completion of the data transfer is requested. As such, for at least this reason, Applicant respectfully asserts that the Gupta reference does not disclose all the claimed features of claims 1, 8, 16, 22 and 23.

Furthermore, Applicant respectfully asserts that the Gupta reference does not disclose setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and send an acknowledgement to the first protocol upon the occurrence of the event if the request for data transfer contains a request for acknowledgement of the completion of the data transfer. In the rejection, the Examiner relied upon a theory of inherency for disclosure of the feature by the Gupta reference. However, Applicant respectfully reminds the Examiner that the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson,* 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (Emphasis Added). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. *Id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy,* 17 U.S.P.Q.2d 1461, 1464

(Bd. Pat. App. & Inter. 1990) (emphasis in original). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.* Regarding functional limitations, the Examiner must evaluate and consider the functional limitation, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. *See* M.P.E.P. § 2173.05(g); *In re Swinehart*, 169 U.S.P.Q. 226, 229 (C.C.P.A. 1971); *In re Schreiber*, 44 U.S.P.Q.2d 1429, 1432 (Fed. Cir. 1997). If the Examiner believes the functional limitation to be inherent in the cited reference, then the Examiner "must provide some evidence or scientific reasoning to establish the reasonableness of the examiner's belief that the functional limitation is an inherent characteristic of the prior art." *Ex parte Skinner,* 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Inter. 1986).

Applicant respectfully asserts that the Examiner has not provided a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the Gupta reference and, as such, has not supported the burden of proof for inherency. Indeed, the Examiner relies solely on the conclusory statement that "a variable is inherently set in memory that corresponds to the completion of the request otherwise it would not be aware when the last acknowledgement is received." *See* Office Action, p. 9. However, this is clearly not sufficient and the Gupta reference clearly does not disclose the recited feature expressly, implicitly or otherwise. As such, for this additional reason, the Gupta reference does not disclose all the features of claims 1, 8, 16, 22 and 23.

The Fukae reference fails to overcome the deficiencies of the Gupta reference in this regard. Specifically, the Fukae reference does not disclose determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer or setting a variable in memory to wait for an event corresponding to completion of the data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event, as set forth in claims 1, 8, 16, 22 and 23. As such, the Gupta and Fukae references, taken alone or in hypothetical combination, cannot support a *prima facie* case for obviousness under Section 103. Accordingly, Applicant respectfully requests withdrawal of the Section

103 rejection of claims 1, 8, 16, 22 and 23 and allowance of claims 1, 8, 16, 22 and 23, as well as all claims depending therefrom.

For at least the reasons set forth above, Applicant respectfully asserts that a *prima facie* case for obviousness of claims 1, 8, 16, 22 and 23 cannot be supported by the Gupta and Fukae references, taken alone or in hypothetical combination. Accordingly, Applicant respectfully requests withdrawal of the Section 103 rejection of claims 1, 8, 16, 22 and 23, and allowance of the claims along with all claims depending therefrom.

**Rejection of Claims 7 and 19 under Section 103**

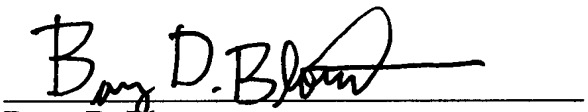
As mentioned above, the Examiner also rejected claims 7 and 19 as being unpatentable over the Gupta reference and Fukae reference and in further view of the Cheriton reference. Applicant respectfully asserts, however, that the Cheriton reference does not overcome the deficiencies of the Gupta and Fukae references with respect to independent claims 1 and 16. In particular, the Cheriton reference does not disclose determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer or setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event, as set forth in claims 1 and 16. As such, the Gupta, Fukae and Cheriton references, taken alone or in hypothetical combination do not disclose all the features of claims 1 and 16. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 7 and 19 based on their respective dependency from claims 1 and 16. Furthermore, Applicant respectfully requests allowance of claims 7 and 19.

**Conclusion**

In view of the remarks and amendments set forth above, the Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: September 5, 2007



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